paralysis, particularly those apparently due to toxines producd within the body.

20. *Pseudo-Bulbar Paralysis.*—On the basis of one case Müller discusses the question of the pathological anatomy of pseudo-bulbar paralysis. As the result of the pathological investigation he found the cause of the symptoms to lie in the presence of several large areas of softening in the brain, together with others in the pons, oblongata and spinal cord. The clinical course of the disease had lasted for twenty years, hence a difficulty of bringing into close relationship the symptoms observed during life and the post-mortem lesions. The case is discussed in an interesting way, and is an add'tion to our knowledge of what is rightly called pseudo-bulbar paralysis.

21. *Color Hearing.*—By color hearing is understood the existence of subjective appearance of color during the appreciation of tones and sounds of various sort. This condition is not extremely rare, inasmuch as up to the year 1896, 140 cases had been published, particularly by French and Italian authors. Since then a number of cases have also been reported. The article concerns itself with a technical description of the physical and psychological processes involved, and the conclusion is reached that color hearing is an accidental syndrome occurring at a certain level of intelligence, which in itself is not pathological, but in certain cases may be an accompanying phenomenon of dissolution.

2. *Ventral Horns in Tabes Dorsalis.*—Continued article.

Revista di Patalogia Nervosa e Mentale

(May, 1905.)

1. Experimental Contribution to the Study of the Subjective Phenomena of Fatigue in Voluntary Work. Z. TREVES.
2. The Structure of the Retina. RENATO REBIZZI.

1. *Fatigue in Voluntary Work.*—The muscles and the nervous system constitute the organs involved in voluntary work. Both collaborate in all cases. The method used heretofore in studying voluntary work has been the method of the ergograph, but this instrument has as yet yielded only results of doubtful value.

The capacity for voluntary work results from two factors. 1. The total quantity of work the muscles are in condition to furnish. 2. The strength of the initial stimulus. The author discusses at length the work of Kraepelin and the conclusion he arrived at in his "Die Arbeitscurve." He disagrees with Kraepelin and takes up the theories of Lehmann, Loeb, Shirrington and James. He concludes from this study that all authors who have studied the influence of the psychic state in the course of voluntary work put in evidence a lot of conditions which lessen the effects of voluntary work and they do not know how to describe that with the attributes of attention, sometimes comparing it directly and sometimes confounding it with them in another sense.

According to James the effort of attention is the essential phenomenon of the will; so the muscular effort implies volition, so in ultimate analysis all the psychical attributes (precision, &c.) of a voluntary movement may be the expression of the degree of attention that determines it. The force of the accelerating function one may consider then as the measure of the general tone of attention; and as much one would be obliged to say of the impulse (*antrieb*) to voluntary work. The oscillation of the acceleration of voluntary movements and of the *antrieb* of mental work, which occurs as well as one is able to say, outside the consciousness of the subject, until the organs regain a sufficient amount of energy, may be the index of the oscillation of attention.

And the long periods of depression that one observes in the acceleration and in the *antrieb* may correspond to various grades of that rise of attention (with the supervening of psychic inertia) that one feels in himself as the effects of fatigue and monotonous mechanical occupations that ends by becoming quasi automatic.

2. *Structure of the Retina.*—An article on the histology of the retina. The method of Lugaro was used in the study—colloid silver with additions of gold for the staining of the neurofibrils.

(June, 1905.)

1. The Pathogenic Mechanism of Spasmodic Laughter and Crying, and the Motor Functions of the Lenticular Nucleus. FRANCESCHI.
2. The Structure of the Axis-Cylinder. LUGARO.
3. Localization of the Nucleus of the Facial in Man. PURBON and PAPINIAN.

1. *Mechanism of Laughter and Spasmodic Crying.*—A detailed study of the post-mortem findings in a case with a discussion of the histological possibilities opened up by the lesions.

2. *Structure of Axis-Cylinder.*—A purely anatomical article.

3. *Localization of the Nucleus of the Facial.*—A detailed study of a case presenting facial paralysis due to a cancerous tumor of the buccal mucosa and occupying the mid-portion of the face. Serial sections of the facial nucleus were studied and an attempt made to show which cells presided over the individual muscles. WHITE.

(July, 1905.)

1. A Special Nuclear Alteration in Rabies. SICILIANO.
2. Researches on the Fibrillar Structure of the Nerve Cells in Normal Conditions and After Lesions of the Nerves. PARIANI.
3. Contribution to the Pathogenesis of Experimental Pneumococcal Paralyses. PANICHI.

1. *Nuclear Alteration in Rabies.*—The attention of the author was directed to the cornu Ammonis in rabies by the works of Negri. He himself was struck by certain special nuclear changes in the cornu Ammonis of a rabbit dead from rabies; Biondi's triacid stain proved very useful in studying these changes. The change seemed to be of the nature of a regressive process; the nucleus contracted, assumed diverse forms and contained increased nuclein either scattered in granules or concentrated in one large drop. While the nucleolus is pink, the nuclein granules are green with Biondi's stain. The nuclear membrane disappears, and the unclear clump is surrounded by a clear space, and by some protoplasm in the periphery. The author proposes to study the question whether these changes are peculiar to rabies or represent a special reaction of the cells of the cornu Ammonis.

2. *Fibrillar Structure of the Nerve Cell.*—The author studied by the use of neurofibrillar methods the changes in the anterior horn cells and in the cells of the spinal ganglia of a dog after resection and twisting of the sciatic nerve. He used mainly the methods of Lugaro and Donaggio, and also that of Cajal. In the main the different methods gave the same result; the neurofibrils in the part of the cell where the axonal reaction showed the greatest changes were the first to disappear and showed a sort of powdery disintegration; the neurofibrils of the periphery of the cell persisted longer. The changes as seen in a neurofibril preparation are parallel in time and manner to those of axonal reaction as shown by the method of Nissl.

3. *Experimental Pneumococcal Paralyses.*—Panichi gives the result of experimental work on the action of the pneumococcal virus on rabbits. Three rabbits died within twelve or thirteen hours after the injection, presenting convulsions, but no spastic paralysis. In the cord the nerve cells were the elements most affected, showing changes at every level, but not all the cells being affected. Changes in the vessels were slight, hemorrhage

was exceptional. Six rabbits presented spastic paralysis of the limbs and lived a considerable time. The cord in these cases showed similar cell changes to those observed in the acute cases, but in addition hemorrhage was an almost constant feature. The vessel walls showed proliferative changes. The hemorrhages occurred most frequently in the dorsal region, least frequently in the cervical; gray and white matter were both affected. These late hemorrhages bring the pneumococcal process into line with typhoid and grippe. The paralyses are due to the hemorrhages and not to the direct action of the toxin on the nerve cells.

(August, 1905.)

1. The Neurofibrillar Reticulum of the Motor Cells of the Spinal Cord in Tetanus in Animals. TIBERTI.
2. Two Familial Cases of Cerebellospinal Ataxia (Friedreich's Type?) Presenting Some Rare Features. CERLETTI and PERUSINI.
3. Notes on the Pathological Histology (by Biopsy) of the Striated Muscle Fiber in Parkinson's Disease. SALARIS.

1. *Motor Cells of the Spinal Cord in Tetanus in Animals.*—Using the methods of Donaggio and Cajal the author was unable, in animals treated with injections of tetanus toxin, to demonstrate any appreciable lesions of the neurofibrillar reticulum of the motor cells of the cord. There was in some cases slight thickening of the neurofibrils, which is, however, a banal condition. His results are in striking contrast with those of Marinesco, who claims to have demonstrated in tetanus marked neurofibrillar disintegration.

2. *Cerebellospinal Ataxia.*—The authors' report in detail the cases of a brother and sister, aged 21 and 25, respectively, who in childhood developed a marked disorder of gait and a series of clinical symptoms which formed a picture closely related to that of Friedreich's ataxia. The onset in both cases was slow and insidious. When the disease had fully established itself both patients presented static and dynamic ataxia, marked speech defect, the speech being slow and monotonous, constant rotatory nystagmus, deformity of the feet, presence of light reflex, absence of lightning pains.

Of special interest were the rotatory nystagmus, the presence in the boy of mitral stenosis, the presence in both of the patellar reflexes, and in the case of the girl of grave mental defects, with rectal and vesical troubles, while the boy had partial paralysis of both external recti.

The authors discuss the importance of these symptoms in the diagnosis of Friedreich's ataxia, Marie's *heredoataxie cerebelleuse,* and the whole series of obscure spinal affections which enter into the same large group as these two forms. The views of other authors are given, and a fair idea is presented of the present confused state of our knowledge of the clinical and pathological features of the whole group.

A bibliography of 68 references is appended to the article.

3. *The Striated Muscle Fibre in Parkinson's Disease.*—The author reports the results of his examination of one case. The nuclei of the sarcolemma were found normal, the muscle fibre presented an appearance similar to that of cloudy swelling. Both the transverve and longitudinal striation were interfered with. The perimysium and the endomysium showed nothing abnormal. C. MACFIE CAMPBELL.

Psychiatrisch-Neurologische Wochenschrift

(Sept. 23, 1905.)

1. Forms of Chronic Dementia, with Preceding Psychomotor Disturbances. OTAH.

Many of the psychoses present psychomotor disturbances. Paresis and senile dementia in particular, while lately there has been separated